

N^o 1883



A.D. 1910

Date of Application, 25th Jan., 1910—Accepted, 28th Apr., 1910

COMPLETE SPECIFICATION.

Improvements in Electro-therapeutic Apparatus.

I, MARK GAMBLE McELHINNEY, of Number 109, Metcalfe Street, in the City of Ottawa, in the Province of Ontario, in the Dominion of Canada, Doctor of Dentistry, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in
5 and by the following statement:—

The invention relates to improvements in electro-therapeutic apparatus, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

10 The invention consists essentially of the novel arrangement and construction of parts, whereby a condenser element receiving static charges of electricity from a suitable high-tension circuit is periodically neutralised by a vibratory conductor, and the static electricity discharged therefrom for electro-therapeutic purposes.

15 The object of the invention is to devise an inexpensive apparatus both simple in construction and operation, whereby an exaggerated vibratory static current of electricity may be secured for therapeutic purposes.

In the drawings,

Figure 1 is a plan view of the device partially broken away to show the interior thereof.

20 Figure 2 is a cross sectional view on the line A—B in Figure 1.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is a disc of hard rubber or other suitable non-conducting material, having the circular flanges 2 and 3 extending laterally from one side thereof, and forming the central recess 4 and the outer ring
25 recess 5.

6 is a metal plate secured on the outer side of the disc 1, and preferably vulcanised in the rubber, whereby said disc presents a perfectly smooth outer surface, the said plate 6 receiving the static charges, as hereinafter explained.

7 and 8 are binding-posts arranged in the flange 2, or other convenient place.
30 9 is a coil of fine wire filling the outer recess 5, and having one terminal thereof electrically connected to the binding-post 7, and the other terminal electrically connected to the plate 10 secured on the inside face of the disc 1 opposite the plate 6, said plate 10 preferably being formed of tin-foil, and having a sheet of mica 11 placed thereunder to more effectually insulate the
35 same from the plate 6.

12 is a ball, preferably made up of tin-foil, and secured at the outer or spring end of a fine wire 13, said wire being open coiled to render the same as flexible as possible.

40 The wire is supported from the flange 2, and electrically connected to the binding-post 8, and is securely held by the flange 2, so that the ball 12 is quite close to the plate 10.

14 is a cover fitted on the flanges 2, and enclosing the coil 9 and wire 13 with the ball 12 secured thereto within the recesses 5 and 4 respectively, so that the operative parts of the invention can in no way become misplaced, suitable
45 orifices being left in the cover, so that the binding-posts 7 and 8 extend thereabove, and to which are attached the terminals of a suitable high-tension circuit.

[Price 8d.]

McElhinney's Improvements in Electro-therapeutic Apparatus.

15 are loops of wire preferably vulcanised in the disc 1 at diametrically opposite points.

16 is a strap or length of elastic secured to the loops 15, whereby the apparatus may be conveniently secured to any part of the body for electro-therapeutic use.

In using the apparatus, the binding-posts 7 and 8 are connected to a suitable 5 high-tension circuit, such as the high-tension terminals of an induction coil 17 having the low-tension terminals thereof electrically connected to the dry-batteries 18.

If the positive terminal of the high-tension circuit be connected to the post 7 and the negative terminal to the post 8, the ball 12 will become electrified in a 10 negative direction, and the plate 10 through the coil 9 will become electrified in a positive direction.

An attraction will thus take place between the plate 10 and the ball 12, causing the ball to touch the plate and neutralise the charges thereon, when the ball will immediately be returned to its original position by the spring 15 wire 13, until the electrification again occurs, again attracting the ball to the plate and a continuous vibratory action of electrification set up, affecting the uniformity of the current flowing.

When the positive charge is imparted to the plate 10, as above explained, it acts inductively through the di-electric sheet 11 and the disc 1 to the outer 20 plate 6 nearest the di-electric disc 11, and deposits a positive charge on the outside of the plate 6.

This outer charge, each time the ball 12 makes contact with the plate 10, passes to the portion of the body under treatment, and then to the ground 25 giving the desired vibratory static current for therapeutic purposes.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. An electro-therapeutic apparatus, comprising a condenser element, a source of electric energy, a neutralising conductor supported adjacent to said condenser 30 element and electrical connections from said source of electric energy to said condenser element and said neutralising conductor.

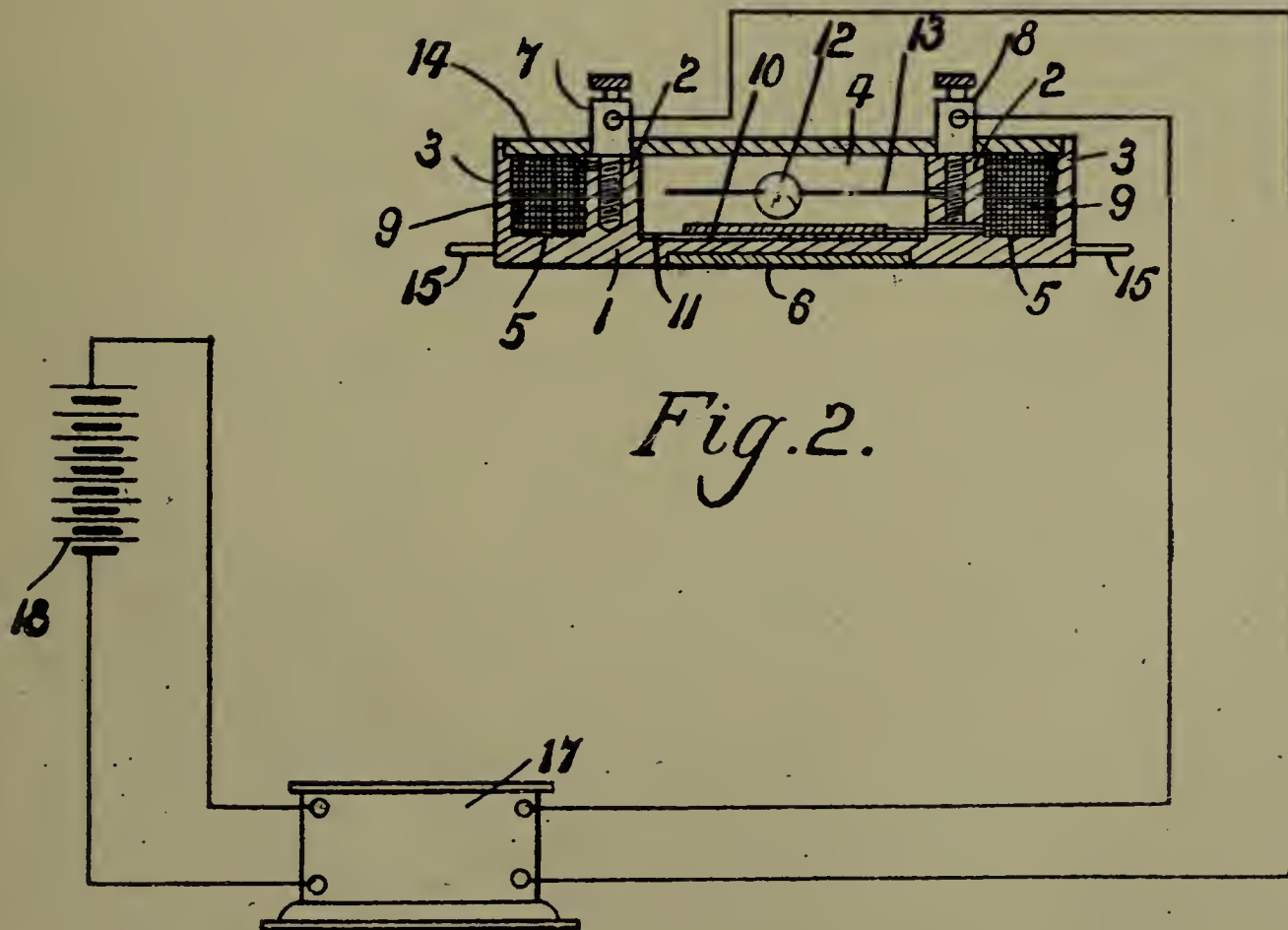
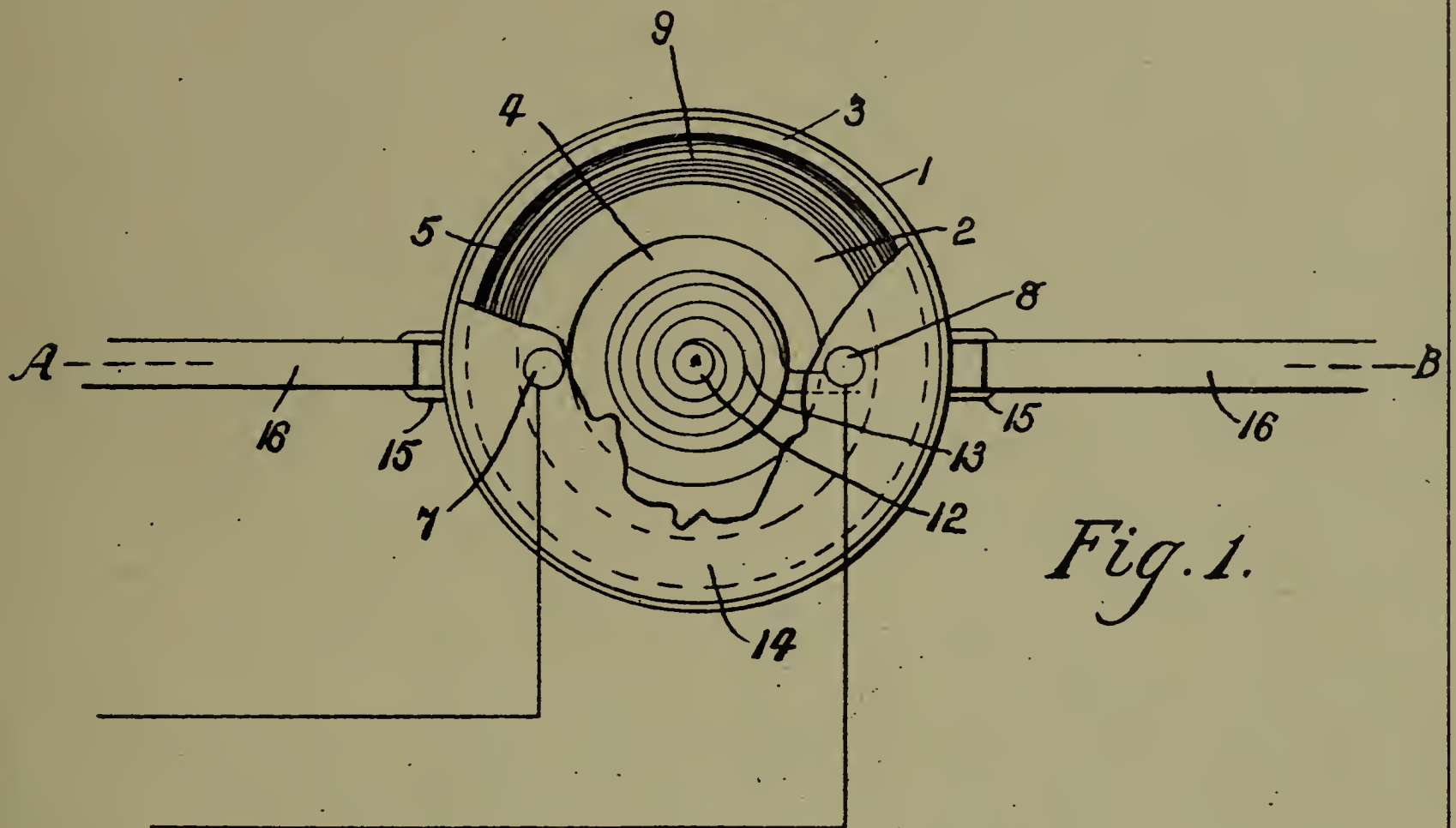
2. In a device as described in Claim 1, a plate 1 of di-electric material, condenser plates 6 and 10 secured on either side of said di-electric plate 1 and a 35 neutralising conductor 12 spring held adjacent to one of said condenser plates.

3. In a device as described in Claim 1, a disc 1 of di-electric material having a plurality of flanges 2 and 3 extending laterally therefrom and forming a central recess 4 and an outer recess 5, a coil of wire 9 contained in said outer recess, a plate of metallic material 10 secured to the disc 1 within the recess 4 and electrically connected to said coil 9, a plate of metallic material 6 secured 40 to said disc 1 on the opposite side to the plate 10, a coil spring 13 supported within the recess 4, a metallic ball 12 supported by said spring and a pair of binding-posts 7 and 8 electrically connected to said coil 9 and said spring 13 respectively.

4. An electro-therapeutic apparatus substantially as described and illustrated. 45

Dated this 25th day of January, 1910.

HASELTINE, LAKE & Co.,
7 & 8, Southampton Buildings, London, England, and
60, Wall Street, New York City, U.S.A.,
Agents for the Applicant. 50



[This Drawing is a reproduction of the Original on a reduced scale.]

WELCOME LIBRARY
1704 (GB)
1910. 1883



22503478885